

O I P E
MAR 12 2004
PATENT & TRADEMARK OFFICE

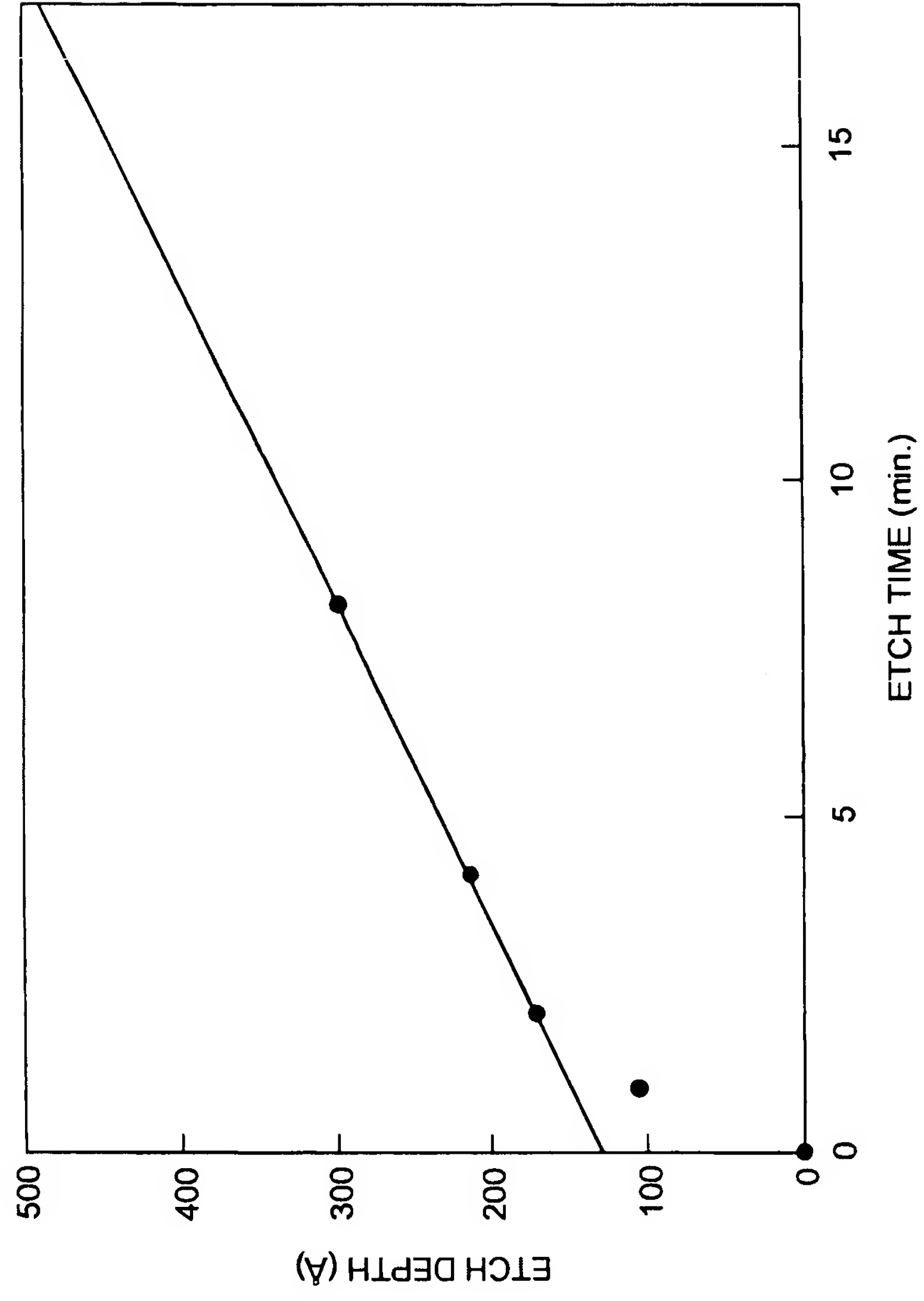


FIG. 1

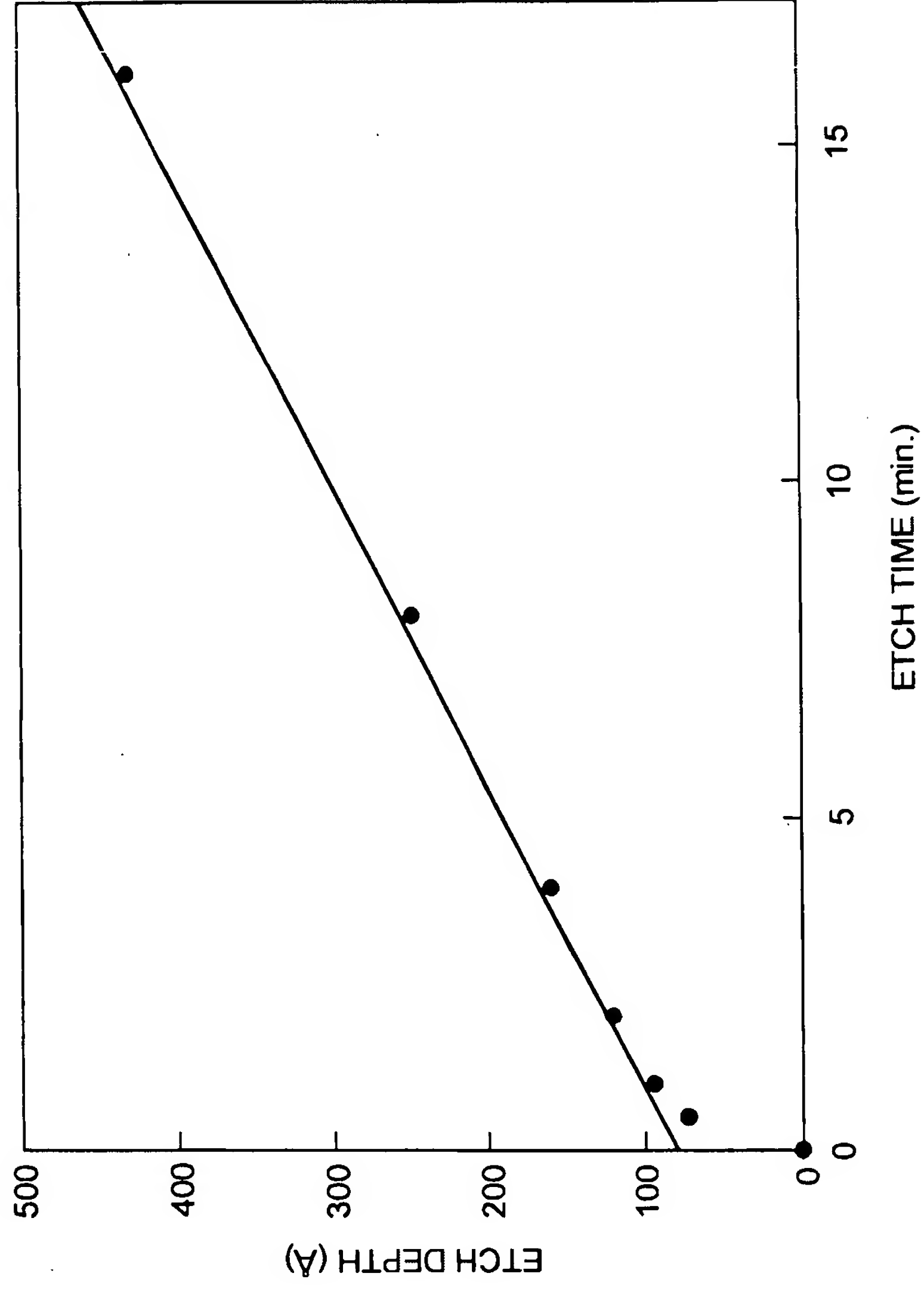


FIG. 2

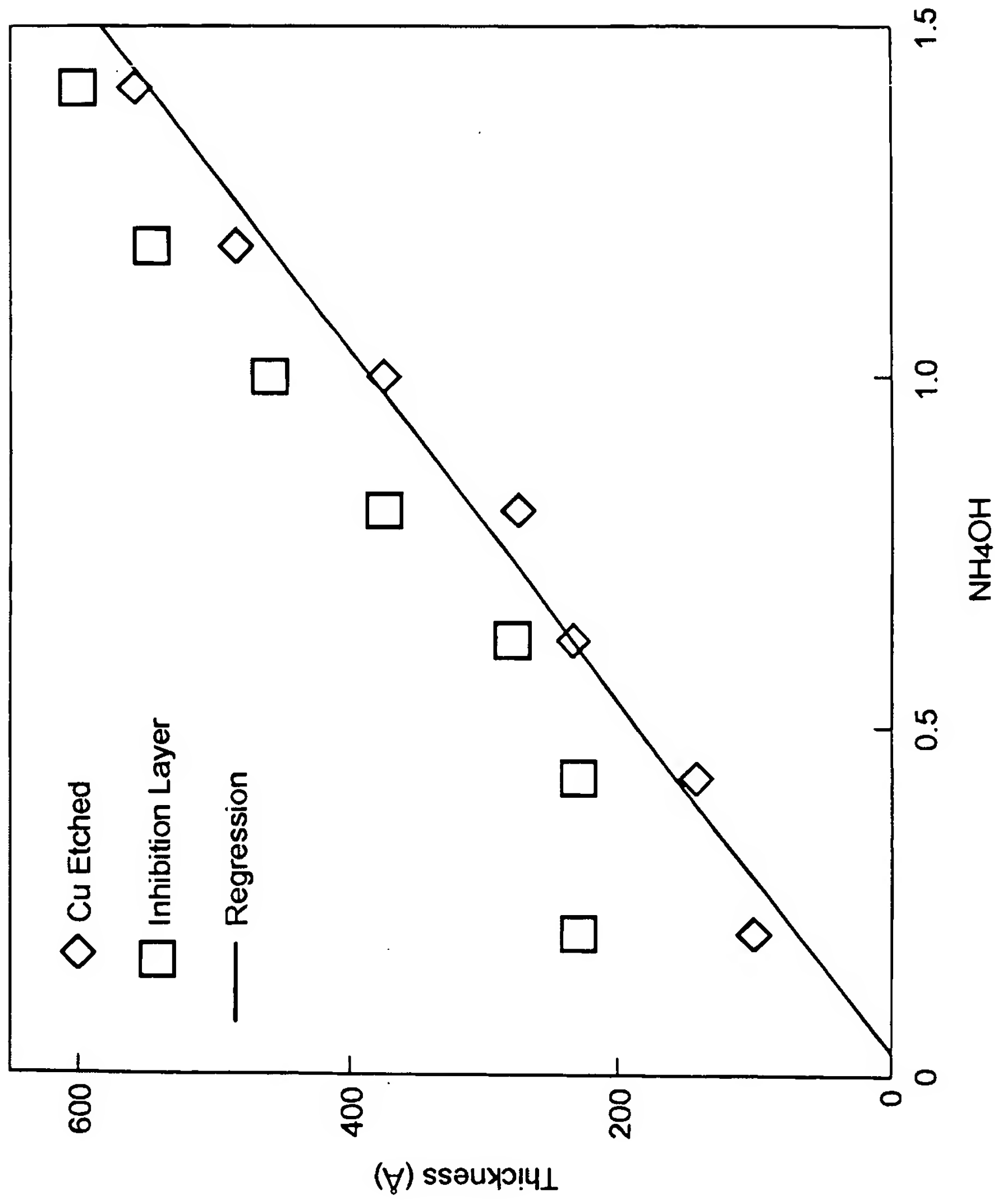


FIG. 3

Copper lines before etch start

Digital Instruments NanoScope
Scan size 2.000 μm
Scan rate 1.795 Hz
Number of samples 512
Image Data Height
Data scale 20.00 nm

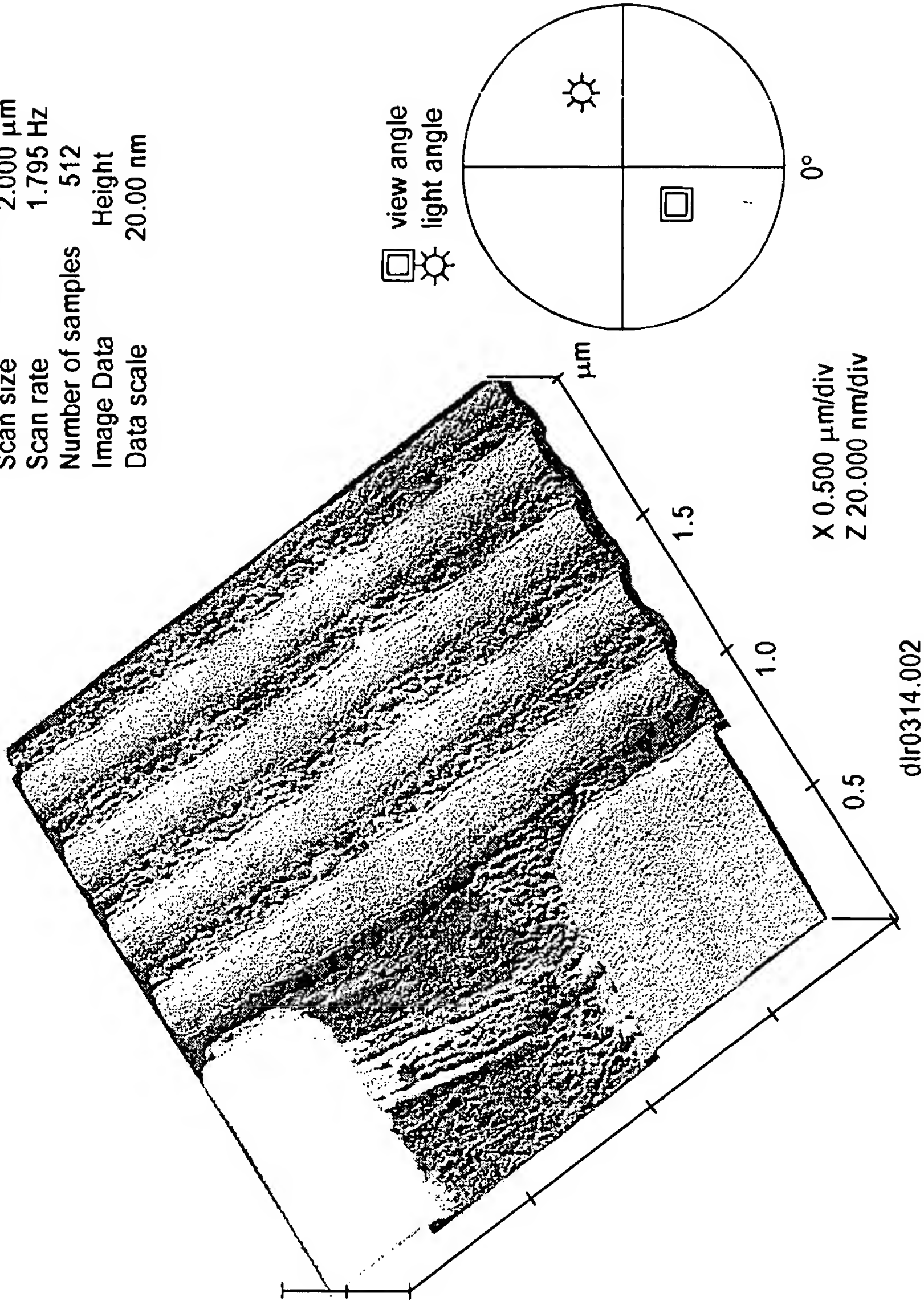
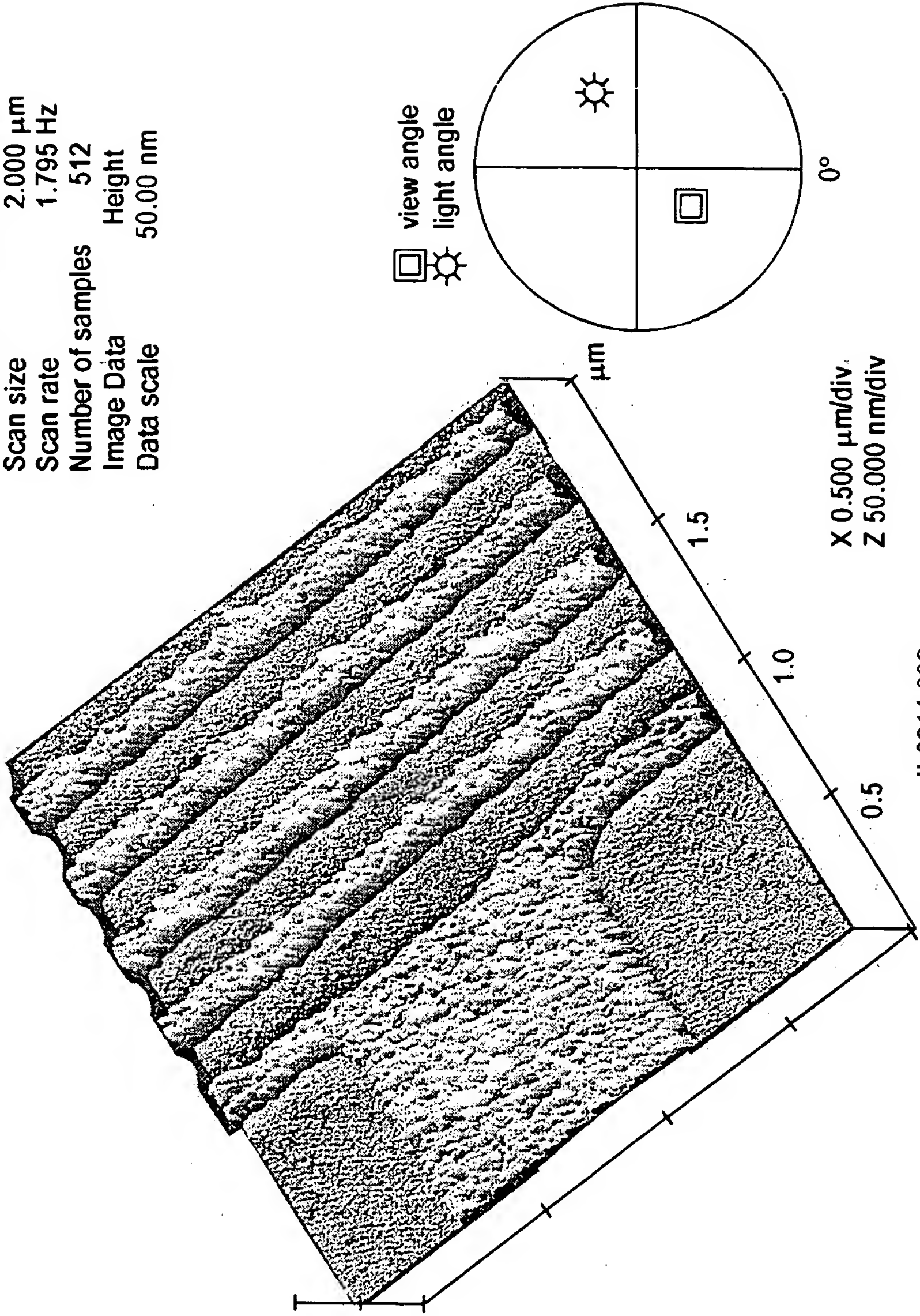


FIG. 4

"Hydrated copper oxide" (HCO) after rinse and dry

Digital Instruments NanoScope
Scan size 2.000 μm
Scan rate 1.795 Hz
Number of samples 512
Image Data Height
Data scale 50.00 nm



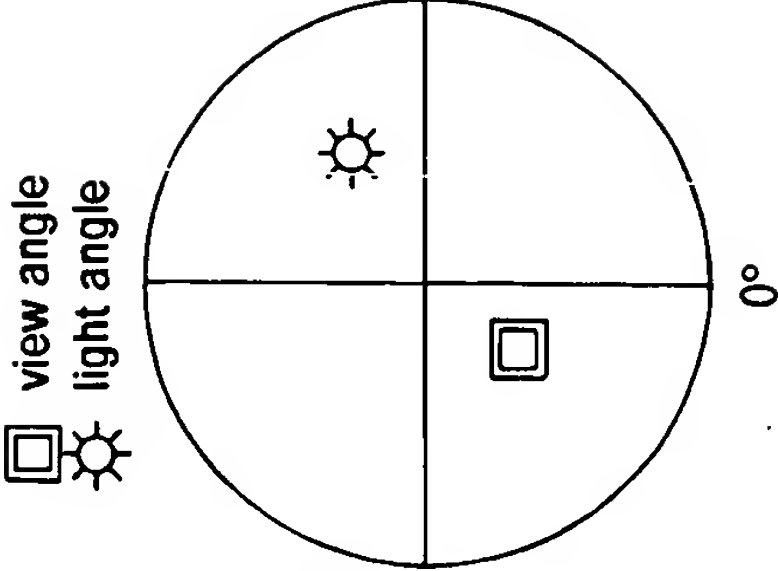
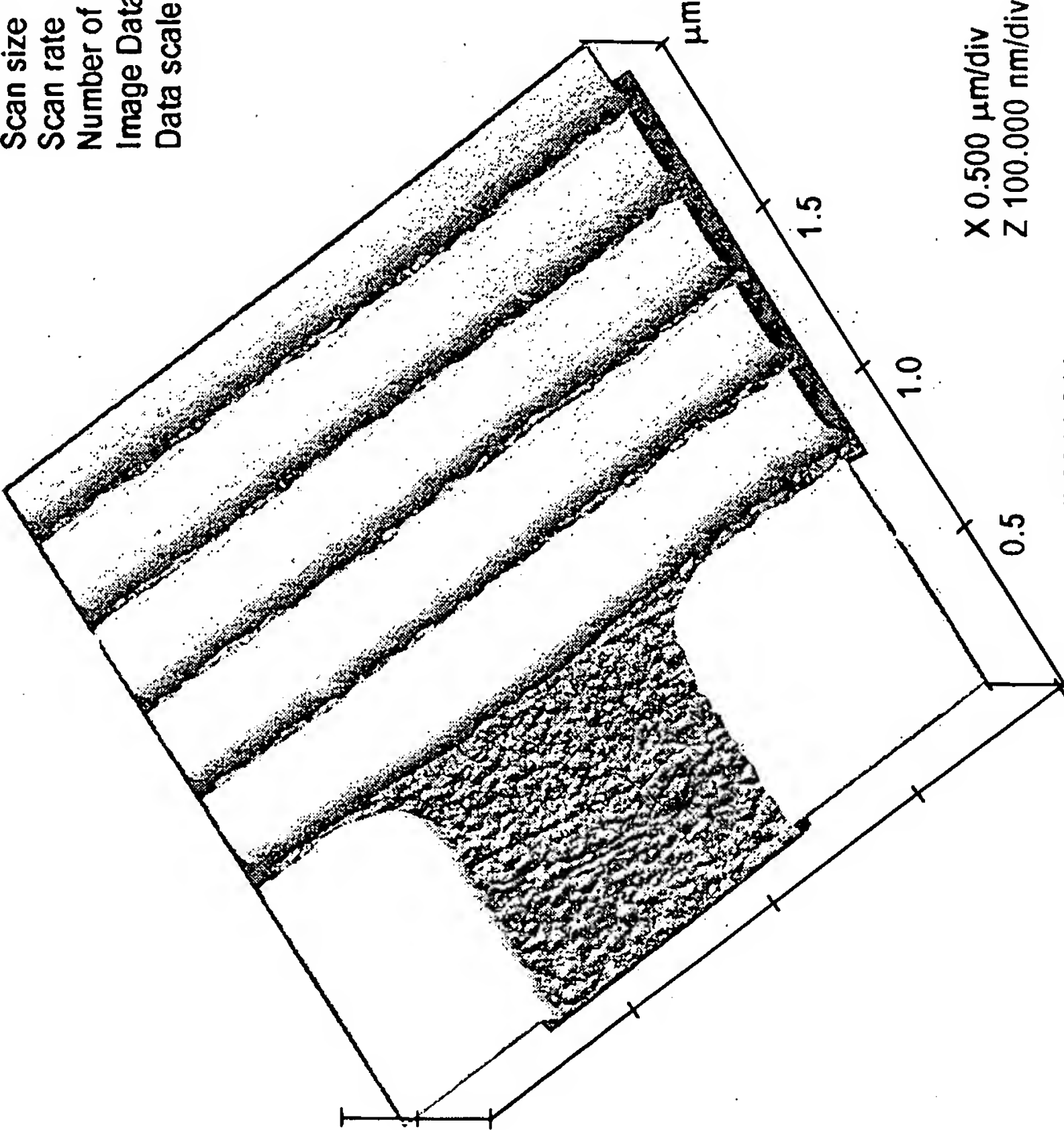
X 0.500 $\mu\text{m}/\text{div}$
Z 50.000 nm/div

dlr0314.008

FIG. 5

(after HCO removal)

Digital Instruments NanoScope
Scan size 2.000 μm
Scan rate 1.795 Hz
Number of samples 512
Image Data Height
Data scale 100.0 nm



dlr0314.014

FIG. 6

Digital Instruments NanoScope
Scan size 8.000 μm
Scan rate 1.969 Hz
Number of samples 512
Image Data Height
Data scale 100.0 nm

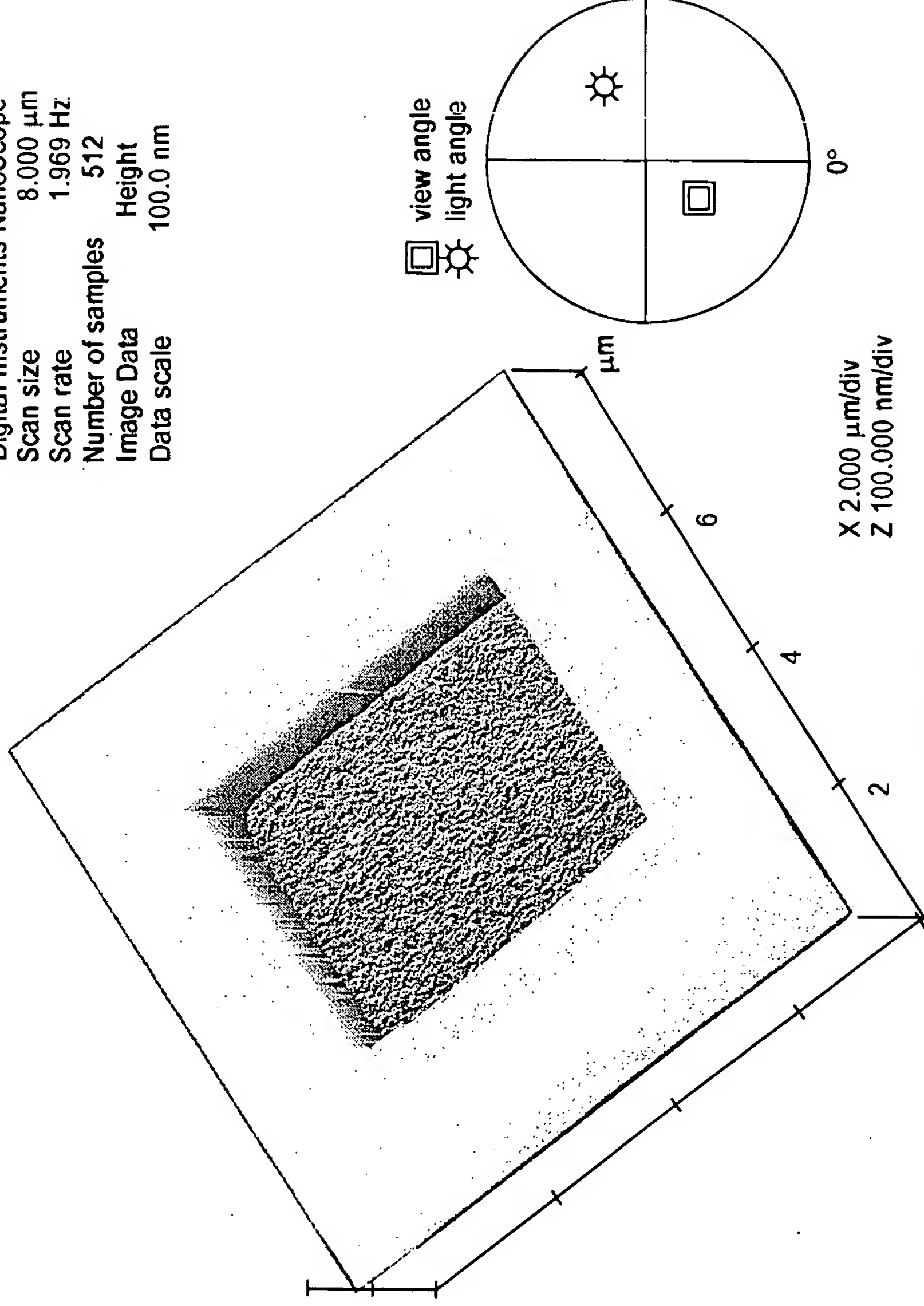


FIG. 7

Digital Instruments NanoScope
Scan size 8.000 μm
Scan rate 1.969 Hz
Number of samples 512
Image Data Height
Data scale 100.00 nm

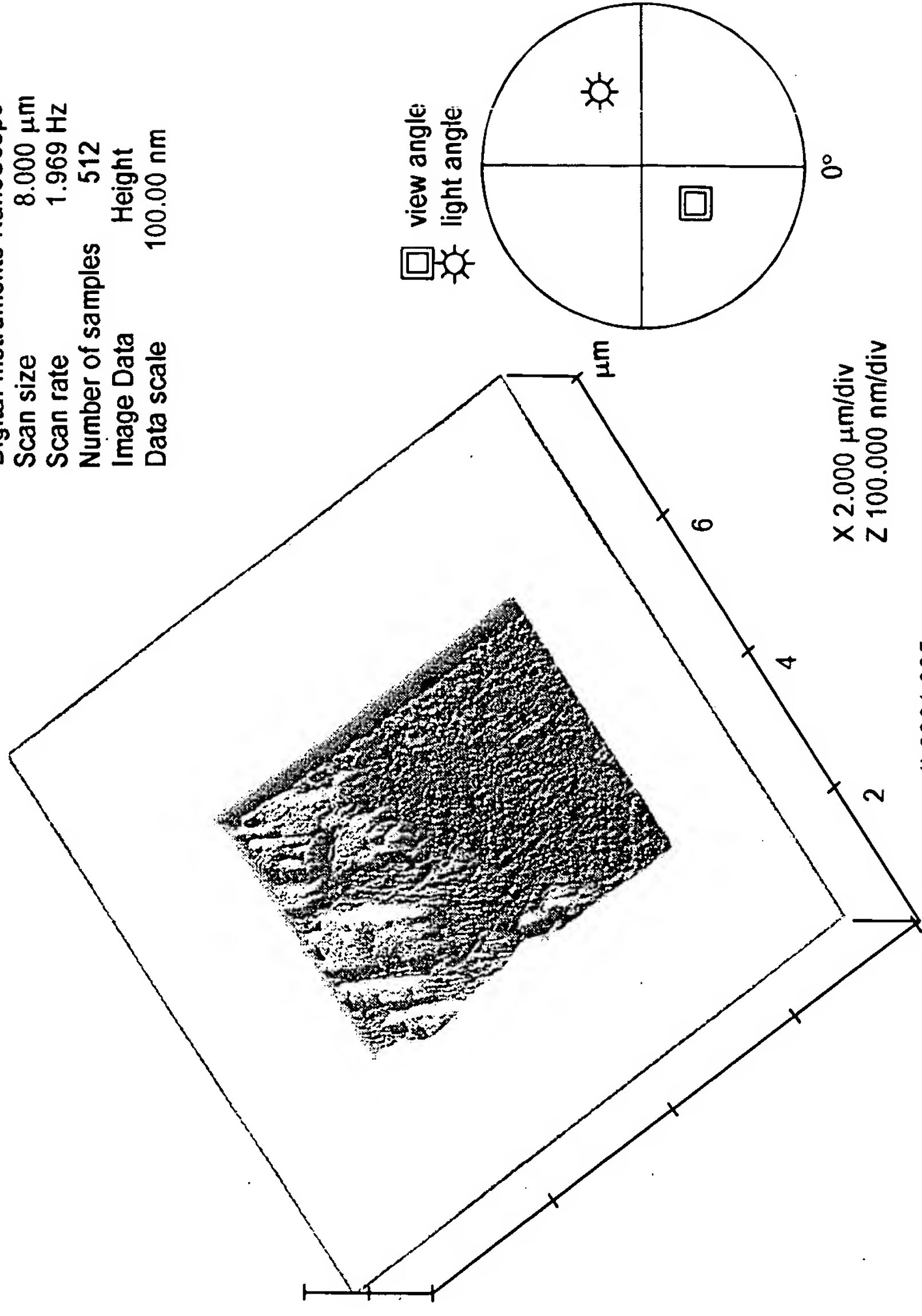


FIG. 8